

Future Water response to consultation ‘Innovation funding and competition: Further consultation on design and implementation’

Future Water is a membership organisation representing c.150 companies in the Water and Wastewater supply chain; our members employ some 40000 people across the UK. We are a non-political organisation working collaboratively with clients, regulators, academia, Government and other key stakeholders in the sector.

The Future Water has a focus on innovation, education, skills and engagement, by bringing together companies and organisations from across the sector through a diverse membership, including utilities, tier 1 contractors, equipment suppliers, manufacturers, innovators, academia, insurers, investors, data & cyber specialists. Future Water helps to drive a collaborative approach to sector wide challenges and we strive to work with professional bodies, research organisations and trade associations throughout the sector. With SME’s making up over 70% of the membership and a focus on innovation, Future Water sits at the heart of the debate on creative thinking and brings in a cross-sectoral dimension to our work, through our hosting of the UK Society for Trenchless Technology (UKSTT) and close relationship with Energy Utilities Association and Pipeline Industries Guild.

Our aim is to shape the future of water and push innovation towards a business as usual operation for utilities. An important part of our focus is Water Dragons, a ‘Dragons Den’ style initiative, operating for more than ten years, which has brought hundreds of innovations into the sector and put them in front of the utilities. Future Water has established an innovation hub to lead the organisation’s activities and also to directly engage with regulators including OFWAT, helping to drive innovation across the sector in consultation with the regulators.

Future Waters view of innovation

Future Water understands that innovation is a broad-based concept that ranges from incremental improvement of existing ideas and practice, to discoveries that produce counter-intuitive changes to our paradigms that produce benefits to society. Future Water believes that from practical experience of members innovation could also include novel application of ideas from one sector to another, innovative extraction of insight from existing data that can be usefully actioned and holistic joined up thinking across traditionally separate inter-sector boundaries (e.g. capturing excess flood water and utilising for non-potable demand).

What needs to happen next is a discussion on how to define or set out a framework for ‘Transformational’. Future Water would argue that the impact of COVID-19 has led to transformational shift in culture, particularly related to working remotely, using different technologies for communication, using remote systems such as drones, remote project development, remote issuing of tenders, remote monitoring of systems – a shift has taken place. Such experience can be used to develop a ‘Framework for Transformation’ that compliments and enhances the sector innovation strategy being developed. Future Water believes that the development or support for an ‘active’ patents market is a critical element for transformation as this will underpin company invention and innovation.

Future Water Principles

Future Water stated principles from the OFWAT consultation on driving transformational change and they are worth re-stating here. Future Water:

1. Supports Ofwat's strategic shift in their strategy to include driving transformational change;
2. Recognises that such transformational innovation has not and will not occur in the current "business-as-usual" regulated utility sector structures;
3. Supports the creation of an innovation pot funded by customers to drive Transformational Innovation in the Water Sector;
4. Considers the fund should be deployed to address specific agreed national challenges against which annual international competitions for funding would be run;
5. Thinks that the fund should not be used to create physical assets that last longer than any single project needs, these assets already exist in the UK;
6. Considers that at least 50% of any single project (and the overall fund) should be spent supporting SME involvement in meeting the challenges;
7. Thinks that the fund should be independent from "business-as-usual" utility activities and subject to transparent governance, flexible engagement terms with an oversight board of stakeholders and a strictly independent chair. Administration of the fund should cost no more than 1-2% of the overall fund;
8. Considers that any reward and/or claw-back initiatives would add uncertainty to the fund and strict project governance and oversight should be sufficient to ensure good value for money;
9. Believes that OFWAT can 'foster more innovation' by setting out focus areas, linking the innovation more closely to ODI framework – The UKWIR 12 questions could form the basis of this approach;
10. Recognises that transformation needs to be driven by people, therefore the human capital/skills element is critical to this discussion and mechanisms/training to support the cultural change must be part of the process;

Future Water recognises that principle 9 is being delivered through the development of the Sector Innovation Strategy, however, principles such as 6, 7 (in terms of funding administrative costs) and 10 remain outstanding. In particular, principle 10 is important as the innovation fund could support cultural change by stimulating new ways of operating and collaborating among utilities and supply chain. Future Water would like to see such change not only being encouraged but extended to drive input from a more diverse and inclusive SME community. In addition, to fostering this encouragement, the 'next generation' – pupils in school - should be supported to put forward projects for support under the fund.

Q1: Do you agree with our proposed default arrangements for managing IPR and royalties? Do you think these arrangements work for different types of projects and activities (e.g. new technology vs. process innovation, roll-out activities etc.)?

Q2: What alternative arrangements should we be considering for IPR/ royalties?

Future Water has undertaken research in Patent activity and IPR, in conjunction with Clarivate (a Derwent Analytics company) and the analysis showed that UK is weak in terms of Patents and IP compared to countries globally. An active IP market is essential to innovation and invention, but it must be linked to allowing for returns on investment, particularly where the IP is underpinned by a patent. (Analytics, January 2020)

Specific to the questions:

The proposals as put forward are not workable and risk disincentivising the innovation market. IP is developed through SME's, consultancies, contractors, academia, individuals etc what is important to all is 'holding' the IP and to give it over to the water utilities collective and any future royalties is counter to the way the market works.

- Our members have stated that they would not want to give up their IP on the basis proposed and rescind any rights to future royalties
- The engineering firms, consultancies, research organisations and others that the Future Water has discussed the proposals with have said that they are very uncomfortable about giving up IP generated as projects on a collaborative basis, when the IP is not directly recompensed
- Our own research shows that an active IP market is a key element of innovation and the proposals do not support such an approach. Future Water believes that an organisation should be established to strengthen IP protection and act as a catalyst for innovation uptake in the UK water industry. The remit would be to manage the IP where this is of common interest to the sector, whilst also benefitting those developing the ideas.

Q3: Do you agree with the principle that data generated through the innovation competition should be open by default?

Future Water supports the 'open-by-default' approach managed properly to support IP linked to the new technologies/ideas and alongside this a recognised 'approval mechanism' (through the fund) so that new technology can be used with confidence by any water company.

Future Water recognises that 'Open Data' drives ingenuity, innovation and publication by Deloitte sets out the case well (Deloitte, 2012) and more recently, *Data Driven Business Transformation: How to Disrupt, Innovate and Stay Ahead of the Competition*, (Carruthers, 2019).

The water industry is recognising the value of open data as part of the digital transformation and there are several projects being support the sector industry research organisation, UKWIR (UK Water Industry Research), this includes the 'Leakage Heat Map' developed by Jeremy Heath, SES Water. Alongside this Future Water members have been producing water usage analysis from data released by water utilities and Yorkshire Water is developing the data centre which will be open to the sector to openly store data.

Where Open Data is part of publishing information on 'trials' undertaken, Future Water argues that NDA's and/or contractual arrangements must be honoured.

Q4: Do you agree with our proposed approach and that we should consider alternative arrangements beyond company contributions?

Future Water believes that alternative arrangements to the 10% should be considered. Investment in the development of transformational projects is not necessarily the most important element in the context of the innovation fund. The relevant contribution and support for projects may not just be financial, access to assets, data sets and the right people are likely to be equally if not more valuable.

Q5: Do you agree that a guideline minimum company contribution of 10% is appropriate in this context?

Future Water recognises that this arrangement is based on the operation of the NIC approach introduced by OFGEM in the gas and energy market. As mentioned in Q4, support for successful project development and implementation may require several factors, money may not be the most important. Care must also be taken that such an arrangement does not lead to bias on larger projects towards bigger companies who can afford to make the commitment.

Q6: Do you agree with the overarching approach we set out here?

Future Water members want to see roll-out and implementation of projects, along with the sharing of knowledge and data, where appropriate. The overarching approach makes sense as a framework for supporting the innovation competition and establishing links to the innovation strategy.

Q7: What are your views on introducing separate, proportionate, arrangements for small-scale projects? How might we define small-scale projects for the purposes of the innovation competition?

Future Water believes that the competition should be open to all and open to projects of all types and sizes – there should therefore be no need to have separate arrangements for small scale projects. Well designed competition criteria should mean that all projects have a fair and equal chance.

Q8: Do you agree with our proposal for ensuring roll-out is at the heart of the innovation competition? How might we reward both leaders and fast followers in?

As already stated, roll-out makes sense as projects need to be taken forward when they have been shown to be innovative and transformative in nature. Future Water understands that the innovation fund is in part aimed at generating a more collaborative approach, regarding innovation - would not rewarding leaders and fast followers counter that approach? Care is needed not to foster a culture that disincentives collaboration.

Q9: What practical arrangements should we introduce to ensure adequate ringfencing of the innovation funding?

Future Water believes that OFWAT has set out the stages well. Examples of how funds are collected and allocated can be found across the business world, on various projects, where 'Escrow' type accounts are used into which monies are paid. The funds are then disbursed according to agreed timescales, expenditures etc linked to the project as it is being delivered. Future Water argues that it is important and that any arrangements are as simple as possible and the amount of monies available each year is made clear.

Q10: Do you think the proposed innovation challenge approach will help better enable partnerships and collaboration between companies and third-parties, in particular smaller innovators? Are there alternative approaches we should be considering? How can we make sure this approach works in practice?

Future Water supports anything that encourages, fosters innovation in the water sector – what is best for the sector, is our focus as an organisation. The innovation in water challenge is interesting but its interaction with the main competition fund is unclear from the proposals. Equally is it a trial approach for just this year? How will it be funded?

In terms of other initiatives to consider:

- Water Dragons – Future Waters own competition which has been operating for over ten years, supporting, and bringing through 100s of companies, with inventions that have been adopted, ideas taken forward. Future Water has also run Water Dragons with the Water Hub (focused on the North East region) bringing forward, early stage innovations and ideas from other sectors. Water Dragon has also seen socially responsible innovations winning the national finals (<https://www.futurewaterFuture Water.com/water-dragons/>);
- Under the ‘Open Innovation’ approach, Future Water would like to flag up the approach in Scotland with the ‘Can Do’ Fund – it is focused on the challenges that the public sector has but seeks innovative solutions that have a societal dimension, improve quality of service and support not just innovation but economic development (<https://www.openinnovation.scot/support-and-funding/can-do-innovation-challenge-fund>)

Future Water recognises the value of economic development in bringing forward SME’s and helping local economies and we argue strongly that this should be a factor in consideration of how the fund operates.

Q11: Do you agree with our proposed approach to returning funds to customers? Are there any other circumstances, not considered here, under which we might consider returning funding to customers?

The innovation fund could be an important catalyst for innovation across the water sector and Future Water recognises that public money, over and above that allocated for the projects under the PR19 process, is being raised. This money clearly has to be managed in line with use of public funds regulations, however, the amount being raised is 0.004% of the circa £50bn spend that will happen over the next five years in the England & Wales water sector. In addition, the public is surely better served by having an innovative water sector, that is highly efficient, attracts the best talent and delivers a service that is the envy of the world. In this regard, using the money to further support innovation/invention must be a better use of funds than returning monies to customers.

Q12: Do you agree with our proposed approach for managing interactions with the price review?

Future Water supports the approach that trials under the innovation fund should not impact materially on failing to meet the outcome delivery incentives (ODI’s). However, if transformational innovation leads to organisational changes, behavioural changes and ultimately outperformance of ODI’s, this presumably is an acceptable positive?

Q13: Do you agree with our proposed amendments to the principles? Are any further amendments to the principles required to reflect our approach to outstanding policy issues outlined in this document?

Subject to the points made under Q5 in relation to the 10% minimum contribution, Future Water supports the principles as outlined.

In our response to OFWAT consultation on driving transformational change in the sector, we stated a number of principles that we felt should be followed, we re-state them again here and highlight the following which we feel have not yet been addressed, principles 6, 7 (in terms of the costs of the supporting organisation) and 10:

- 6. Considers that at least 50% of any single project (and the overall fund) should be spent supporting SME involvement in meeting the challenges;
- 7. Thinks that the fund should be independent from “business-as-usual” utility activities and subject to transparent governance, flexible engagement terms with an oversight board of stakeholders and a strictly independent chair. Administration of the fund should cost no more than 1-2% of the overall fund;
- 10. Recognises that transformation needs to be driven by people, therefore the human capital/skills element is critical to this discussion and mechanisms/training to support the cultural change must be part of the process;

It is worth re-stating what we have said earlier in the response that principle 10 is important as the innovation fund could support cultural change by stimulating new ways of operating and collaborating among utilities and supply chain. Future Water would like to see such change not only being encouraged but extended to drive input from a more diverse and inclusive SME community. In addition, to fostering this encouragement, the ‘next generation’ – pupils in school - should be supported and encouraged to put forward projects for support under the fund.

Q14: Do you agree with our proposed focus, major strategic themes and overall approach for the competition?

Future Water supports the strategic themes as they represent the major issues for the sector but we recommend that ‘Systems Thinking’ and ‘Skills/human capital’ should be part of the strategic themes.

- Systems thinking sits alongside resilience and demands that we look at the water sector as a whole, interconnected with other sectors, examples are IT given the drive towards digitisation; Power – the water industry as a major user needs to transform its approach to generation, use and sourcing; Energy sector also as a major water user!.
- Skills-Human Capital – Future Water from the work of its Corporate Knowledge Retention Group and the Young Water Dragons – Skills for the Future Initiative, recognise that a critical component is the level of skills across the sector – it is estimated that 50% of people will leave the water industry within the next seven years and this loss of knowledge and experience, represents a major challenge to innovation, development of ideas etc.
- Linked to this, Future Water has found that the sector faces a ‘skills attraction’ challenge, not enough people are joining the sector and whilst some of the ‘gap’ can be managed through

increasing the adoption of Artificial Intelligence systems, this is only part of the answer. Future Water believes that there should be a 'skills for the future' element supported through the fund as this is a key component of supporting the cultural change – this should therefore be reflected as a major theme, encouraging future customers to join the sector!

Q15: What is the appropriate split of available funding between the Innovation in Water Challenge, the main competition and enabling activities?

The focus needs to be on what is best for the sector, which of the three, what proportion of split, will help to deliver change and engender a different way of thinking. It is difficult at this stage to define what the appropriate split should be, although activities such as the joint innovation strategy are well underway and this could point the way forward.

Q16: What are your views on the feasibility of running all three types of activities in the pilot year, and on the proposed timings in Annex 3?

Future Water recognises the importance of getting the competition going but the timings are ambitious and it better to get the mechanics right than rush to meet a timetable!

Q17: Do you agree with our proposed approach to key implementation considerations outlined here?

The proposals as they stand make sense, Future Water would like to state:

- The supporting organisation is funded to no more than 1-2% of the fund costs
- Details on how the independent panel of experts is appointed needs to be outlined
- With OFWAT being the final arbiter in the process, in addition to the supporting organisation, independent panel of experts, will there be further support to OFWAT?
- Innovation metrics – Future Water recognises that innovation evaluation may form part of the Joint Sector Innovation Strategy, however there should be a framework of assessing innovation, along metrics linked to IP and patents, sector activity and Returns on Investment;

Complimentary Activities

Future Water is already engaging on aspects of the Joint Innovation Strategy but wanted to highlight in particular:

Stakeholder Engagement and building relationships with the supply chain

This is critical to longer term success of the proposals – relationships with the water companies presents a mixed picture for Future Water from excellent to 'mixed'. There should be an expectation that strong links are developed with organisations such as Future Water, particularly as we have over ten years' experience of innovation through Water Dragons.

Centre of Excellence option

In terms of reaching out across the sector and beyond, encouraging innovators for any industry, establishing a Centre of Excellence is a sensible step. Given the test centres across England & Wales that exist already (plus Scotland, Northern Ireland and Ireland), the universities specialising in water, the various trade Future

Waters and research bodies, the Centre could act as a 'coordinating' system for activity and knowledge in the sector. With modern technology the centre can be established as a 'virtual' operation acting as a signpost to the relevant resources and focused on bring innovators into the sector. The Centre of Excellence should operate across the UK & Ireland. The centre might also be the place to hold IPR!

Open data – our supportive position has already been set out. Future Water supports the National Infrastructure Commissions view that sharing of data (under a National Data Strategy) for assets across all infrastructure sectors. The adoption of a strategic theme linked to 'Systems Thinking' as set out above would underpin such an approach and is something that we recommend.

Other OFWAT Activities

The option of a 'One Stop Shop' is an interesting idea and Future Water would like to be a central part of the discussions as to how this develops and the authority that such an organisation would have.

Final Comment – Future Water welcomes the next steps that are being set out as this brings more clarity, however, there are still issues around IPR, water company co-contributions to projects and the need to ensure that skills/human capital are not missed, innovation is about ideas and doing things differently.

Future Water through its Management Board happy to elaborate on any aspect of the response.

Kind regards,





Chief Executive Officer – Future Water